The Adolescent Brain – What All Teens Need to Know

www.heysigmund.com/the-adolescent-brain-what-they-need-to-know/

Posted February 9, 2016 by Karen - Hey Sigmund

The Adolescent Brain – What They Need to Know.

1. **Your brain is changing. But you have enormous capacity to influence those changes.**

   What your brain is doing.

   You're transitioning into adulthood. There's no hurry to do this – you'll have plenty of time. Your adult brain won't be fully developed until you're about 24. In the meantime, it's your time to learn, experience and experiment with the world and your place in it. Your brain is ready for this. It has been supercharged with about a billion new neurons (neurons are what brain cells call themselves to sound intelligent) to support you to do everything you need to do. The brain cells you use will strengthen. The ones you don't will wither away. Don't worry about the withering. This is important and normal. Your brain doesn't need every one of your billion new neurons. Letting go of the neurons you don't need will make space and energy available to strengthen the ones that you do.

How to make it work for you.

Your brain is developing into a more efficient, more powerful machine – but it needs you to guide it. To strengthen and grow your brain, spend time doing things you want to be great at. Every experience will change your brain. When you do something, the corresponding neurons will fire up and that part of the brain will strengthen. The skills you learn during adolescence will be richer and more enduring than anything you learn at any other time of your life. If you play music or sport, do drama, paint, cook, learn a language, these are the connections that will get stronger. Spend too much time on the couch though, and there will be brain cells planning their goodbyes and wishing you cared about them more. Bums love couches. Brains aren't so keen.

2. **Your brain is like a high-performance sports car but your brakes aren't ready yet.**

What your brain is doing.

Your brain will wire and strengthen from the back to the front. One of the first parts of the brain to develop is the amygdala, which is involved in instinctive, impulsive, emotional, aggressive reactions. It's great for keeping you alive if there's trouble, but not always great when it comes to making balanced decisions. To make good decisions, the front of the brain needs to be involved. This is the pre-frontal cortex and it is the 'calm down', sensible, logical part of the brain that is able to consider consequences and put the brakes on emotion, behaviour or decisions that might cause trouble. Here's the rub: Because your pre-frontal cortex won't be fully developed until you're 24, your decisions, problem-solving and the way you respond to people will be heavily influenced by the amygdala. The adolescent brain is often compared to a high-performance sports car – fast, powerful, and keen to go hard on the bends – but without the brakes.

How to make it work for you.

You're ready to experiment with the world in new and exciting ways but because your brain is still fine-tuning its ability to read situations and respond well, things won't always end the way you think they will. Sometimes taking risks is brave and brilliant. Sometimes it's not. Take a step back and look at the big picture, before you take a leap. Your brain will be telling you to go for it, but be alive to that voice inside you that might be telling you otherwise. That's your intuition. It's the collection of memories, wisdom and experiences that are outside of your awareness. Tap into it and let it work with the courage, creativity and adventurous spirit that is expanding in you.

3. **Hello hormones! (But your brain will take time to adjust.)**

What your brain is doing.

You've probably heard a lot of people blaming hormones for the things adolescents do that aren't so loveable. (It's okay, nobody is meant to be lovable all the time – if we were, we all would have been born as cake.) It's not so much your hormones that cause trouble but the way your brain reacts to them. The main sex hormones (testosterone, estrogen, and progesterone) are in you during childhood but when puberty arrives, the levels of these hormones increase to adult levels. What's new is the jarring that comes when your brain is introduced to these hormones.

For girls, the hormones that fluctuate are estrogen and progesterone. These hormones are linked to the brain

chemicals that control mood. Say hello to big feelings – and know that they are normal, healthy and completely okay – and that it won't always be like this.

For boys, testosterone and the amygdala get friendly. The amygdala is the part of the brain that is involved in the fight or flight response. You might feel angry and fearful more often and more intensely than you have before. There is nothing wrong with feeling these feelings, but it's important to manage what you do with them.

How to make it work for you.

For both boys and girls, the sex hormones get busy in the limbic system. This is the emotional hub of the brain. You might find that you tend to be volatile and that you crave experiences that make you feel deeply. Listening to sad music or watching an intense movie are ways to feed the craving safely.

Big feelings will make it really easy to ruin relationships and do damage that you never intended. They can also drive you to do great things. Anger, sadness, and restlessness can drive incredible courage and change. Some of the most important things in history have happened because people your age were angry enough to change the way things were done. Big feelings won't always be bad ones. You'll also have times of intense joy and excitement. This will drive connection and enthusiasm and will help you find your passion. Hold on to this. It's what beautiful lives are made from.

4. **Your brain is like an open window. Expose it to good and it will thrive. Expose it to bad and that window will slam shut.**

What your brain is doing.

With so many neurons firing, your brain will be heavily influenced by whatever you expose it to, good or bad. This makes your brain extremely vulnerable to stress and addiction. Think of your not-yet-developed brain like a partially built house. Exposure to bad weather will devastate a house that is still waiting for its roof, but a fully built one will come through the same storm undamaged.

How to make it work for you.

If you want to be technical about it, your brain is a few pounds of gooey jelly. What makes it amazing is you – what you expose it to, what you say yes to, and of course, what you say no to. Be choosy with your experiences. They could potentially change your brain in ways that last well beyond the moment.

5. **So let's talk about addiction, because you're more vulnerable than ever.**

What your brain is doing.

Dopamine is one of the brain's feel-good chemicals and it is released when you get something you want or when you think about getting something you want. The release makes you want the thing again, which is great if it's something healthy, like eating, connecting socially, falling in love, or trying new or challenging things. The everyday level of dopamine in your brain is lower than that of an adult, which can make you feel a bit flat – but – when you get something you want, your brain releases more dopamine than would be released in an adult.

You can see how this works. You have less dopamine to start with but when you get a rush of it, it just feels so good. The chase for that feel-good can drive you to keep doing things that aren't so healthy – drugs, drinking, gambling. Eventually, it can lead to addiction. Healthy things can also become addictive to the point that they are bad for you, such as exercise, social media or gaming.

How to make it work for you.

Be alive to the pull to keep doing something that isn't good for you. That's your dopamine pushing you around. Your developing brain is particularly vulnerable – strong, capable, smart, creative – and vulnerable. With your prefrontal cortex still under construction, you'll need to work harder to control the impulse to do something that might not end well. Some not-so-risky ways to get a dopamine high are listening to music, exercising, trying something new or challenging. You're being driven by a brain that is encouraging you to be brave and fearless. Be brave and fearless, but be smart about it.

6. **You might want to push against the norm or take risks. (Oh you rebel you!)**

What your brain is doing.

At this stage of your life, you are beautifully open to new experiences and your courage is at an all time high. It's very likely that you'll crave novelty, adventure, and challenge. In the long run, this will broaden your capabilities and enrich your experience of adulthood. In the short-term, it might come with risk, persuading you towards risky, new behaviours such as sex (including sexting), drugs, drinking, lying about where you are. It can also drive you towards strong, healthy behaviours, such as any competitive activity, travel, activism, sports, performing. One of your jobs is to decide between the good risks and the bad risks, but to an adolescent brain they can look the same. This is because the pre-frontal cortex, the part of the brain that is able to think about consequences and calm an overly emotional reaction, isn't fully able to be involved the decision. You'll be more likely to overestimate the potential positives of a situation and underestimate the potential negatives.

How to make it work for you.

The drive to experiment and try out new things is an important one. There are a lot of things that are important for you to experience along the way to adulthood, and you don't want an overly cautious brain talking you out of the things that will be good for you. Just be aware that because something feels like it's a good idea, doesn't mean it always is. You'll sometimes feel invincible and you'll be less likely to shy away from things that could end badly. You'll also be less likely to learn from it. You have a lot of control over your brain, but you'll need to switch this on. Slow down your decisions and be deliberate about considering the good and the bad – and talk to the adults who care about you. They've been where you are before, and they've made the mistakes to prove it. Being a rebel sounds cool – but don't forget your parents did their version of it too.

7. **Doing two things at once is a myth. Yes. Even for you.**

What your brain is doing.

Your brain can only focus well on one thing at a time. If you do more than that, your brain will actually switch between the two, so neither task will be done really well.

How to make it work for you.

Anything that comes with any risk at all deserves your full attention. This is why texting and driving is out. Same with trying to drive with a bunch of chatty friends or study in front of the television. Your brain is magnificent – but don't make it do too much at once.

8. **Sleep. It's a superpower. (Yes, really that good.)**

What your brain is doing.

Melatonin, the hormone that makes you sleepy is released about two hours later at night in an adolescent brain compared to an adult's. This means that you'll feel fully charged at around seven or eight o'clock and you won't even feel like sleeping until after about 10pm. Melatonin stays in an adolescent body for longer which is why you'll feel groggy in the morning. Because your brain it growing at a phenomenal rate, it needs sleep – about 9-10 hours of it. So many important things happen while you sleep:

> • *Your brain will get rid of the neurons it doesn't need to make way for strengthening the ones that you do.*

> • *Your memories and the things you have learned during the day will be strengthened. (This is why all-nighters aren't a great idea.)*

> • *While you are asleep your brain will replay what you've learned, pull it apart and help to make sense of it for you. Same for emotional experiences. Adolescence can be a stressful and emotional time, and sleep is important to help you deal with this.*

How to make it work for you.

Write this down and put it on your mirror: 'Everything feels better with sleep.' Given that you probably won't feel tired until about 10pm, start your wind-down about an hour before this. Put your devices away (I know! – but it will be worth it). The light from them will delay the release of melatonin and keep you awake for longer. Try reading, listening to music or studying just before bed. If you're trying to figure something out, sleep on it – your brain will get busy on it while you sleep. Sleep when you can. It might not always be when the rest of the family is sleeping, but you're on a different time clock to them.

If you're still not convinced about the super powers of sleep, here are some of the things that can happen if you don't get enough: skin conditions (like acne) will flare up, you'll be more likely to eat too much of the wrong food, you'll be moody, cranky, impatient, and more likely to feel bad about yourself, you'll be more likely to make bad decisions, you'll have less capacity to learn, you'll be less creative, less able to solve problems and more forgetful.

9. **You'll be quicker to read people as being disappointed with you. Sometimes you'll be spot on. Often you won't be.**

What your brain is doing.

Adolescents and adults each use a different part of the brain when the interpret other people's feelings. Adults will call on the rational prefrontal cortex to read facial expressions. This leads to a more accurate understanding of what someone might be feeling. Adolescents, on the other hand, will recruit the amygdala to interpret emotion. The amygdala is designed to be super sensitive to danger or threat and it runs on impulse and gut reaction. When you're interpreting through this lens, you'll be more likely to read anger or aggression when there isn't any.

How to make it work for you.

Remember this when you think someone is being aggressive or hostile. Sometimes your interpretation will be spot on, but sometimes it will be completely wrong. The tendency to misread people can easily cause relationships to break. Be open to the possibility that just because you think someone is disappointed or angry with you, that doesn't necessarily mean that they are. One of your greatest powers is your ability to speak. If you are concerned about what someone is thinking, ask – in person if you can. Texting is great but when things are emotional, it can add to the confusion. Always be careful jumping to conclusions, and cool off before you react. If a situation feels black and white, there's probably something you're missing. The ability to manage relationships and emotions lies at the heart of emotional intelligence, which is one of the most powerful and important things you can have. Now is your time to practice, experiment and build it.

10. **You will worry more about what people might be thinking of you.**

What your brain is doing.

Knowing you are being looked at, or anticipating being looked at, will be enough to bring on a strong response in your brain and your body. During adolescence, your brain will be particularly attentive to clues about what other people might be thinking about you. This might feel bad sometimes, particularly as you're likely to misread a lot of that information. Adolescence can be tough! There is increased activity in the part of the brain that pays attention to social information and uses that information to make decisions about behaviour. This can be one of the reasons that you might be motivated to do riskier things when you're with friends. There is also an increase in oxytocin, 'the bonding hormone', which drives you to be self-conscious – conscious of yourself – as you start to think about the kind of person you want to be and the world you want to live in, and how you can create that. This is a great thing but the downside is that it can make you sensitive to what other people might be thinking of you.

How to make it work for you.

This is what you have to know: Everyone your age will be worried about the very same thing – what other people are thinking of them. The adolescent brain is strongly wired to connect with peers, which is why the threat of exclusion hurts so much. Sometimes exclusion will happen, but it will have nothing to do with who you are. When people work as a group, one way they strengthen their identity and their solidarity is by pushing people away. It's awful that people do this – it's really awful but know that it is more about their own need to find who they are, in a really bad way, than about who you are. It's lonely but know that this is temporary. It is no reflection on who you are. None. You're brilliant, kind, smart, strong, amazing, which is why you're nobody's victim.

11.

So now that you know what your brain needs from you, you can't blame it when things go wrong.

Your brain has a lot of sway, but that doesn't mean you can blame your brain every time you make a mess of things. People won't care what your brain is doing when they're stooped and sore from picking up the pieces. You're not a robot and ultimately you're the only one in charge of your decisions. Slow down enough to think about things from all angles – even the ones you might not want to know about. Rather than forging ahead, take a step back to look at the bigger picture. The difference between really brave and really stupid is the amount of time you spend thinking about the consequences.

Finally, know how awesome you are. All of these changes are steering you in the direction of something amazing. Things won't always go to plan, and some days will be awful. As long as you're making the best decisions you can to stay safe, you'll look back on these times and you'll laugh. The mistakes, the falls, the embarrassing moments – one day those stories will be gold.